REMARKS

This Amendment responds under 37 C.F.R. § 1.111 to the Office Action of April 5, 2010. Reconsideration is requested.

Claims 1 through 31 are pending. Claims 1 through 4, 6, and 8 through 16 are amended. Claims 17 through 31 are withdrawn. No new matter is added.

A separate Request for a Three-Month Extension of Time with authorization to charge the Official Fee accompanies this Amendment.

1. Rejections under 35 U.S.C. § 112, Second Paragraph

The Examiner rejects claims 1 through 16 under 35 U.S.C. § 112, second paragraph, for specific reasons identified by the Examiner. The Applicant adopted the Examiner's suggestions for overcoming these rejections with a few exceptions. The Applicant requests that the Examiner consider the following alternatives.

The Examiner requests deletion of the abbreviation "PB." The Applicant deletes this abbreviation but also corrects the term "plant basis" to "plant-based component." This phrase is grammatically correct and consistent with the title of the application.

The Examiner requests clarification of the (1) term "weight proportions" and (2) the weight percent of the total construction material comprised by the vegetable aggregate or "plant-based component." (*See* the last paragraph on page 3 and the first paragraph on page 4 of the Office Action.) The Applicant believes that the amendments address these rejections regarding "proportions" for the following reasons.

The percentages recited in the Applicant's claims are in weight percent or "wt%" as identified by the Examiner. The percentages are provided as the ranges or "proportions" for a particular component. For example, the "mixture M1" has two components, a binder and a mineralizer, which are in proportion to one another. The proportion of these two components is 100% of the weight of the "mixture M1" and not the final "construction material." Similarly, the mineralizer has two components expressed in "proportions" of the weight percent of the mineralizer. For these reasons, the Applicant proposes using only the term "proportions" instead of the term "weight proportions" and to identify the percentages as "wt%."

The weight percent of aggregate in the final construction material need only be enough to accomplish the objectives of the designer in providing a "stable and durable" final product. (*See* the specification on page 2 at line 7 and the third paragraph at lines 19 through 24.) The addition of aggregate to cement need only be a "volume sufficient" to satisfy the designer's purpose and is a selection of the designer independent of this invention.

Those skilled in the art of forming aggregate-containing cements are well versed in selecting the amounts of aggregate necessary to serve their intended purposes. The objective of this invention is to provide a vegetable-based aggregate with "good chemical, physical, and mechanical properties." (*See* the specification on page in the second paragraph at lines 12 through 16 and on page 2 in the first paragraph at lines 1 through 8.)

For this reason, the Applicant suggests that the terminology "said plant basis component is added in a volume sufficient to be an aggregate for said construction material" correctly guides

the skilled artisan in understanding the relative proportion of aggregate to final construction material. (*See* the specification on page 14 in the second paragraph at lines 13 through 18 and in the paragraph bridging pages 15 and 16.) Reconsideration of the rejection to this element is requested.

Also, the Examiner requested that the "binder" be identified at "Portland cement." The Applicant suggests that the binder is properly identified for this art as a "hydraulic binder."

Portland cement is identified as a preferred embodiment in the specification for the binder. However, Portland cement is only one of many specific hydraulic binders known in the industry of cements. The skilled artisan is well aware of binders used in this art. Therefore, the Applicant requests reconsideration of this rejection.

The Examiner objects to the term "consistency K_1" in claim 13. The Applicant provides a copy of page 6 of the specification at lines 23 through 27 of the published application (Enclosure 1A) and the corresponding English translation found on page 6 at lines 29 through 32 (Enclosure 1B). These pages support and explain the amendment to this claim.

The Examiner questions the term "52.5" in claim 16. The term "2.5" is a standardized indication for the quality/class of concrete (*see, e.g.*, Enclosure 2). The Applicant amends the claim to clarify this reference to an industry standard.

2. Rejections under 35 U.S.C. §§ 102(b) and 103(a)

The Examiner rejects claims 1 through 16 under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Rechichi '381, Berg '087,

WO 0206182 to Devlin, XP 002242677 (or JP 54025925 A), DE 19526541 to Killmer, U.S. 2002/059886 A1 to Luo, CH 688721 to Zewag, DE 3632394 A to Basalin, DE 10050134 A, to Goetz, EP 016727 A to Scheiwiller, DE 884088 to Bauer, or WO 9709492 A to Graf. The Applicant traverses these rejections and requests reconsideration.

The Applicant notes that the Examiner does not independently analyze the citations identified in the search of the EPO Examiner, Mrs. Gattinger, who performed the International Search. The Examiner relies solely on the EPO Examiner's identification of certain citations with an "X" or a "Y."

The EPO Examiner, Mrs. Gattinger, performed the examination of the corresponding European application and has now accepted the non-relevance of the prior art she so designated and granted claim 1 without amendment. Therefore, the Applicant believes that the Examiner's rejections as to these EPO citations are moot.

A. Proportions of Components

The Applicant explains in the background of the specification that the first problem he attempted to solve was to identify a mixture of (1) a new "mineralizer" with (2) any appropriate, known binder and (3) a plant-based component that provides a quality construction material. It was essential, to determine the proportions for the two components of the mixture M1 (the mineralizer and the binder) and the proportions of the two components that provide the mineralizer in order to obtain an effective binding of the plant-based component.

In other words, the binding effect is obtained independently of the proportion of the plant-based component. The proportion of the plant-based component is chosen as a function of the intended use of the construction material in the same way that concrete can be prepared with sand and/or variable amounts of a variety of gravels or true aggregates mixed in with sand and varying amounts of binders. The proportions depend on the final use or purpose of the concrete. (*See* Enclosure 3.) In contrast, the mineralizer is manufactured independently in the described by the Applicant in proportions.

The problem solved by the Applicant is the successful binding of a plant-based component with a binder (for example, Portland cement). The Applicant's invention provides the ideal filler/mineralizer to be used in combination with the plant-based component and the binder to provide a material having optimal mechanical and thermic properties.

B. The Solution Provided by the Invention

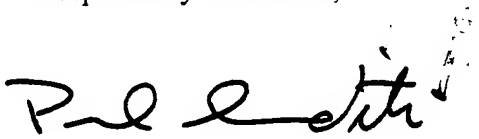
The invention is novel and non-obvious because it identifies the fillers to be used with the plant-based component. The invention differentiates from the jungle of known fillers and numerous different materials disclosed in the prior art which components are appropriate for fulfilling the bonding function. For example, the Applicant observed that magnesium carbonate ($MgCO_3$) fulfils this particular purpose, but the exclusive use this carbonate leads to undesirable mechanical properties. Secondly, the invention proves that these undesirable properties are eliminated when $MgCO_3$ is added to $CaCO_3$. Furthermore, $MgCO_3$ has a catalytic effect.

Finally, the invention establishes all possible properties of the mixture of $CaCO_3$-$MgCO_3$ permitting the manufacture of a construction material having the desirable qualities.

These unexpected results are not disclosed or described in any document of the prior art cited by the Examiner. Further, the citations do not teach, suggest, or motivate the combination of claimed elements. Therefore, the invention as defined in claim 1 and its dependent claims is new and involves an inventive step not obvious to one skilled in the art. The Applicant requests that these rejections be withdrawn.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration is requested.

Respectfully submitted,



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methods [where the mixer for the mixture (PB + M1) is connected to two silos (one of which contains the Portland cement and the other the mineralizer) through respective scales], this procedure results in a substantial reduction of the production costs of the construction material due to the simplification of the installation and the reduction of the number of process steps.

The weight proportions of the components constituting the mixture M1 are comprised in a range of approx. 50 % to approx. 90 %, preferably between 6/10 and 4/5, for the Portland cement and in a range of approx. 10 % to approx. 50 %, preferably between 1/5 and 4/10, for the mineralizer.

The mineralizer is composed of a defined, application-oriented resp. -dependent mixture M2 of calcium carbonate $CaCO_3$ and magnesium carbonate $MgCO_3$, the weight proportions being comprised in a range of approx. 60 % to approx. 95 %, preferably between 2/3 and 9/10, for $CaCO_3$ and in a range of approx. 5 % to approx. 40 %, preferably between 1/10 and 1/3, for $MgCO_3$. The practical applications have shown that this composition of the mineralizer ensures a substantially better bonding ability of the vegetable raw materials and therefore a better bond in the matrix than the mineralizers of the prior art.

The mixture obtained from mixtures PB and M1 can now be mixed into a predetermined quantity of mixing water that corresponds to a desired consistency K_i (K_i = stiffness of the fresh concrete; K_1 = moister than earth-moist; loose when shaken; K_2 = just soft, cloddy when shaken; K_3 = soft to liquid; source: Lüger).

Reduzierung der Arbeitsgänge eine nicht geringfügige Herabsetzung der Herstellungskosten des Baustoffes.

Die Gewichtsanteile der die Mischung M1 bildenden Komponenten liegen in einem Bereich von ca. 50 % bis ca. 90 %, vorzugsweise zwischen 6/10 - 4/5 für das Portlandzement und in einem Bereich von ca. 10 % bis ca. 50 %, vorzugsweise zwischen 1/5 - 4/10 für den Mineralisator.

Der Mineralisator besteht aus einer definierten anwendungsorientierten bzw. -abhängigen Mischung M2 von Kalziumkarbonat $CaCO_3$ und Magnesiumkarbonat $MgCO_3$, wobei die Gewichtsanteile in einem Bereich von ca. 60 % bis ca. 95 %, vorzugsweise zwischen 2/3 - 9/10, für das $CaCO_3$ und in einem Bereich von ca. 5 % und ca. 40 %, vorzugsweise zwischen 1/10 - 1/3, für das $MgCO_3$ liegen. Die praktischen Anwendungen haben gezeigt, dass der so zusammengesetzte Mineralisator eine im Vergleich zu den bekannten Mineralisatoren wesentliche bessere Klebefähigkeit der pflanzlichen Rohstoffe und damit Einbindung in die Matrize gewährleistet.

Die aus den Mischungen PB und M1 erhaltene Mischung kann nun in eine entsprechend einer gewünschten Konsistenz K_i vorgegebene Anmachwassermenge eingerührt werden (K_i = Steife des frischen Betons; K_1 = nasser als erdfeucht, beim Schütteln lose; K_2 = knapp weich, beim Schütteln schollig; K_3 = weich bis flüssig; Quelle: Lüger).

Dank der oben definierten Zusammensetzung und deren Zusammenspiel ist eine Reihe von Vorteilen registrierbar. Es konnte nämlich beobachtet werden, dass die Erstarrung schon nach sehr kurzer Zeit, nämlich ca. 75 Minuten nach dem Anmachen beginnt und der Abbindeprozess beschleunigt abläuft. Ferner ist im Vergleich zu allen bekannten Baustoffen, inklusive den auf pflanzlicher Basis

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Products

Portland Cement

There are two types of gray Portland cement; TS EN 197-1-CEM I with 42.5R and 52.5N standards. The strength of these types depends on the high amount of C3S in the cement.

These are the most popular cement types, especially in the high strength concrete class and in the construction of tall buildings. It is popular in pre-stretched prefabricated applications in particular, tunnel mould systems and in the construction of mass housing.

Frequently used in reinforced concrete elements and other prefabricated productions. Particularly, recommended for pre-tensioned prefabricated applications. It is also the type of cement mostly used in concrete classes of high compressive strength required applications and cast concrete structures. Widely utilized with the tunnel molds systems very much used in the construction of high-rise buildings and housing developments.

COMPOSITE PORTLAND CEMENT

Intended for a variety of purposes and uses such as constructions of dwellings, retaining concrete, canals, channels and edging productions; in plastering and mortar applications; also used as a PCC cement in ready-mixed concrete where high compressive strength is not required.

Portland Cement 32,5R - TS EN 197-1-CEM IVB-M (V-L) 32.5R
This Portland composite cement is in the early compressive strength group in its own class. Apart from Portland cement, it contains 35% fly ash, which is finely blended with limestone in its compounds. Thanks to the fineness of its filling material, this type of cement tightens by filling the micro pores in the concrete and improves its impermeability.

The finely blended pozzolanic materials used in the production of composite Portland cements ensures higher final strength and durability by accelerating the later age reactions and also improving resistance to external factors.

Portland Cement 42,5N - TS EN 197-1 CEM II / B-M (V-L) 42.5 N
This Portland composite cement contains 25% fly ash, which is finely blended with limestone in its compounds as well as Portland cement. Thanks to the fineness of the filling material it contains, this type of cement tightens by filling the micro pores in the concrete and improves its impermeability.

The finely blended pozzolanic materials used in the production of composite Portland cements ensures higher final strength and durability by accelerating the later age reactions and also improving resistance to external factors.

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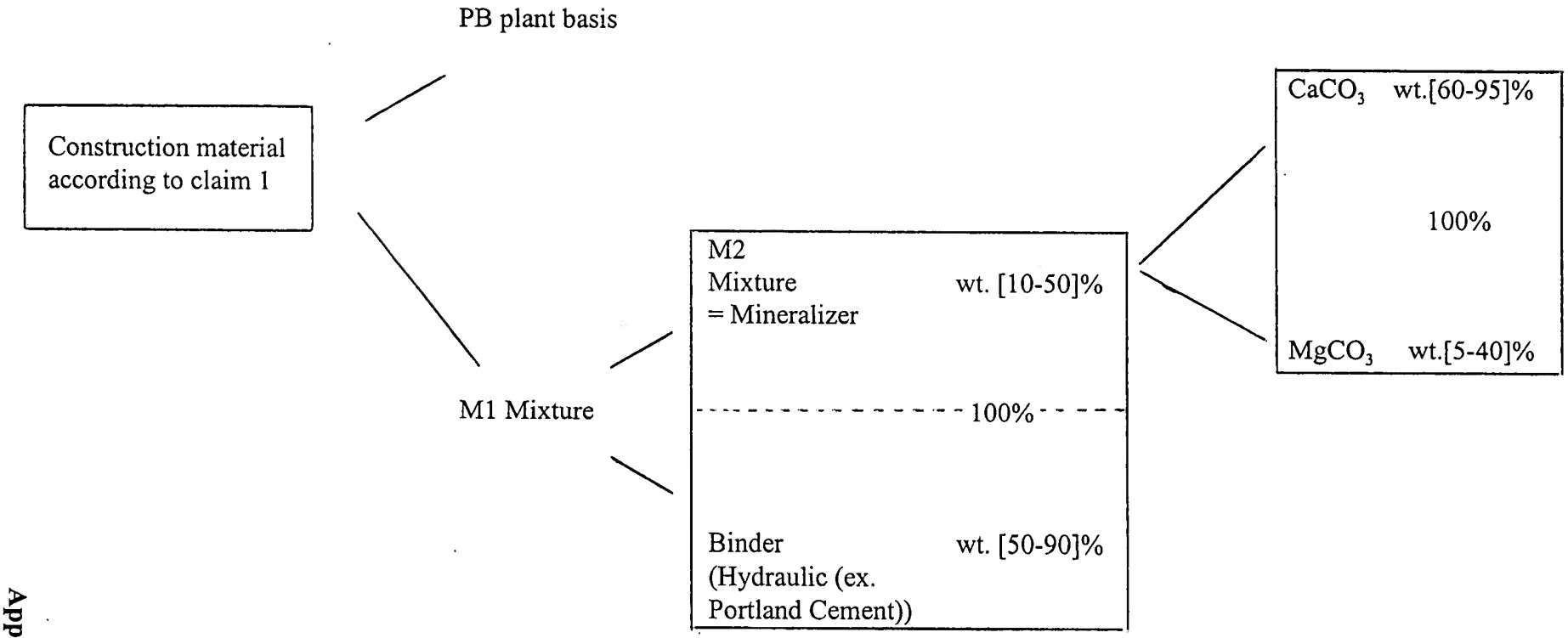
Application No. 10/532,957
Enclosure 2


PB plant basis
Construction material according to claim 1
M1 Mixture
M2
Mixture
= Mineralizer
wt. [10-50]%
100%
Binder
(Hydraulic (ex. Portland Cement))
wt. [50-90]%
$CaCO_3$ wt.[60-95]%
100%
$MgCO_3$ wt.[5-40]%